HBYB Pressure Transmitter

1. Product Introduction

1.1 Working Principle

The HBYB pressure transmitter of Wuxi Haobang High tech Co., Ltd. adopts MEMS diffusion silicon technology for the pressure core, which is amplified by a digital compensation amplification circuit with a microprocessor. It is fully intelligent temperature compensated by digital software and outputs standard signals. The precision of the universal product is 0.25%. In the standard purification production process, parameters are strictly controlled to avoid the effects of temperature, humidity, and mechanical fatigue, ensuring the long-term stability of the transmitter in harsh industrial environments.

The digital circuit of the transmitter is carefully designed for working conditions such as radio frequency, electromagnetic interference, and surge voltage, with strong anti-interference ability, wide power supply range, and polarity protection.

1.2 Product Features

HBYB pressure transmitters have the following characteristics: high sensitivity (18-25mv/V), high reliability, low thermal zero drift, low thermal sensitivity drift; compact size.

- Dynamic response frequency of 1KHz, meeting the requirements of dynamic pressure measurement, such as special occasions such as waves and wind tunnels;
- Strong output signal, high sensitivity (18-25mv/V), easy for secondary

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instruments to eliminate interference signals and normalize processing;

- Compact size, customizable with special structures according to user needs;

2. Product Description

HBYB pressure transmitters are strictly controlled in various parameters during the standard purification production process. The entire product has undergone rigorous testing and aging screening of components, semi-finished products, and finished products, with stable and reliable performance. Widely used for pressure measurement in industrial processes such as petroleum, chemical, metallurgical, power, hydrology, etc., it is a low-cost and cost-effective civilian and industrial grade product.

3. Range Selection

Table1: Product Range Selection Table

Range	Units	Range	Units
-100~0	KPa	0~6	KPa
0~10	KPa	0~16	KPa
0~20	KPa	0~50	KPa
0~60	KPa	0~100	KPa
-0.1~0.1	MPa	0~0.1	MPa
0~0.16	MPa	0~0.25	MPa

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0~0.4	MPa	0~0.6	MPa
0~1	MPa	0~1.6	MPa
0~2.5	MPa	0~4	MPa
0~6	MPa	0~10	MPa
0~16	MPa	0~20	MPa
0~25	MPa	0~40	MPa
0~60	MPa		

Please note: For other special ranges, please contact us

4. Performance Parameters

Table 2：Product Performance Parameter Table

Power supply：5Vdc or 9～30Vdc　　Reference temperature：25℃

Parameters	Min	Typ.	Max	Units	Remark
Precision	-0.25		+0.25	%FS	Including nonlinearity, hysteresis, and repeatability
Long-term stability	-0.1		+0.1	%Span	1 year
Insulation resistance	50			MΩ	250Vdc
Overload pressure	2x			Rated	
Breaking pressure	3x			Rated	

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Pressure cycle	10			Million	From zero to full scale
Compensation temperature	-20		+85	℃	
Operating Temperature	-40		+85	℃	
Storage temperature	-40		+125	℃	
Vibration		±20		g	
Impact		100		g	11mS

Please note: For special needs, please contact us

5. External Dimensions

G1/4 interface

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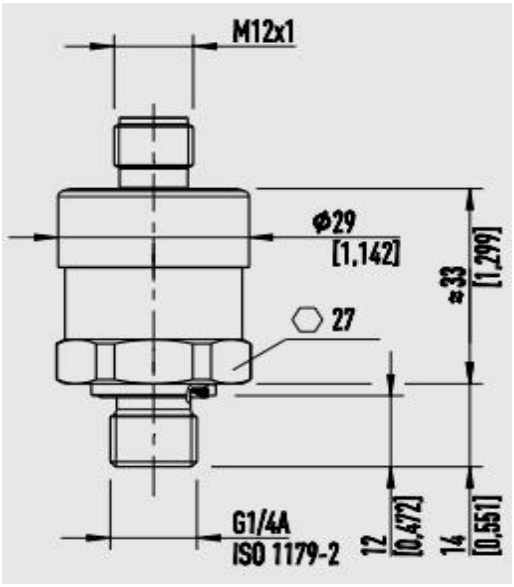
G1/2 interface

Figure1： Product Outline Drawing



Equipped with M12x1 circular aviation connector,

weight:approximately 80g [0.18lb]

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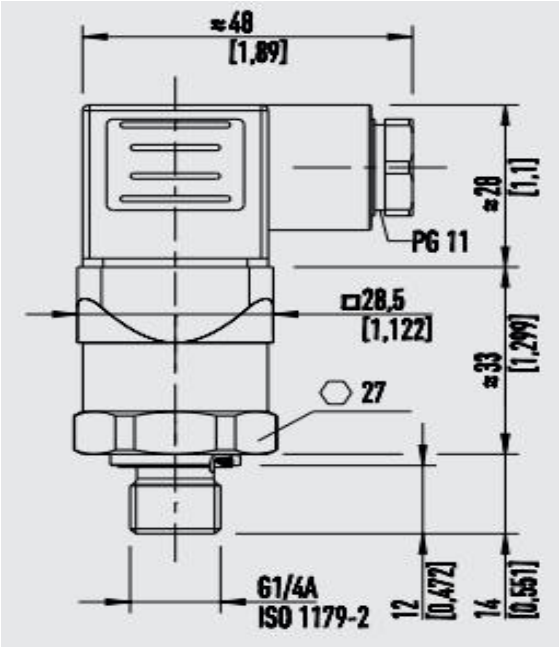
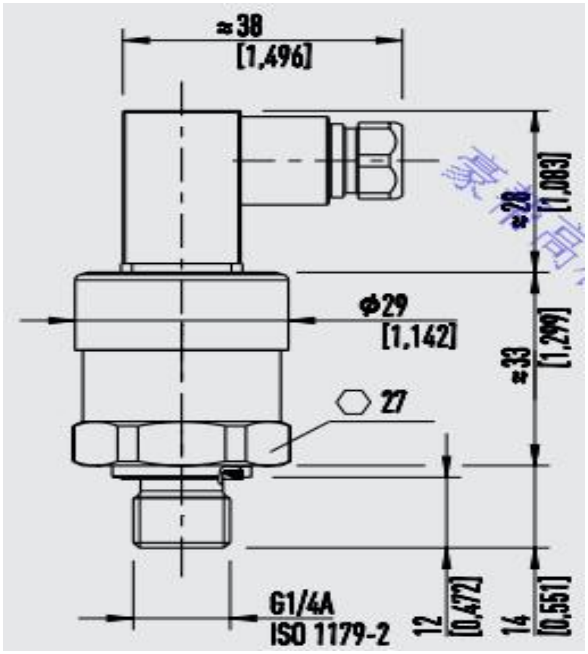


Equipped with an A-shaped Hirschman connector, weighing approximately 80g [0.18 lb]

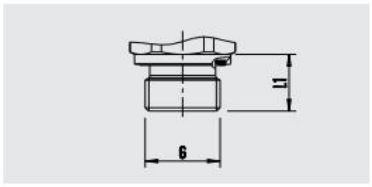


Equipped with a C-shaped Hirschman connector, weighing approximately 80g [0.18 lb]

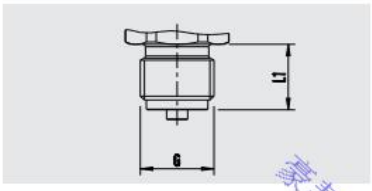
Figure2：Product Dimension Drawing

Note: The above threads are examples. For special requirements, please contact the manufacturer.

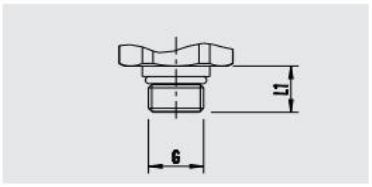
6. Process Connection



G	L1
G ¼ A DIN EN ISO 1179-2	14 [0.55]
G ½ A DIN EN ISO 1179-2	17 [0.67]
M14 x 1.5 DIN EN ISO 9974-2	14 [0.55]



G	L1
G ¼ B EN 837	13 [0.51]
G ⅜ B EN 837	16 [0.63]
G ½ B EN 837	20 [0.79]
M20 x 1.5 DIN 16288	20 [0.79]



G	L1
7/16-20 UNF BOSS SAE J514	12.06 [0.48]

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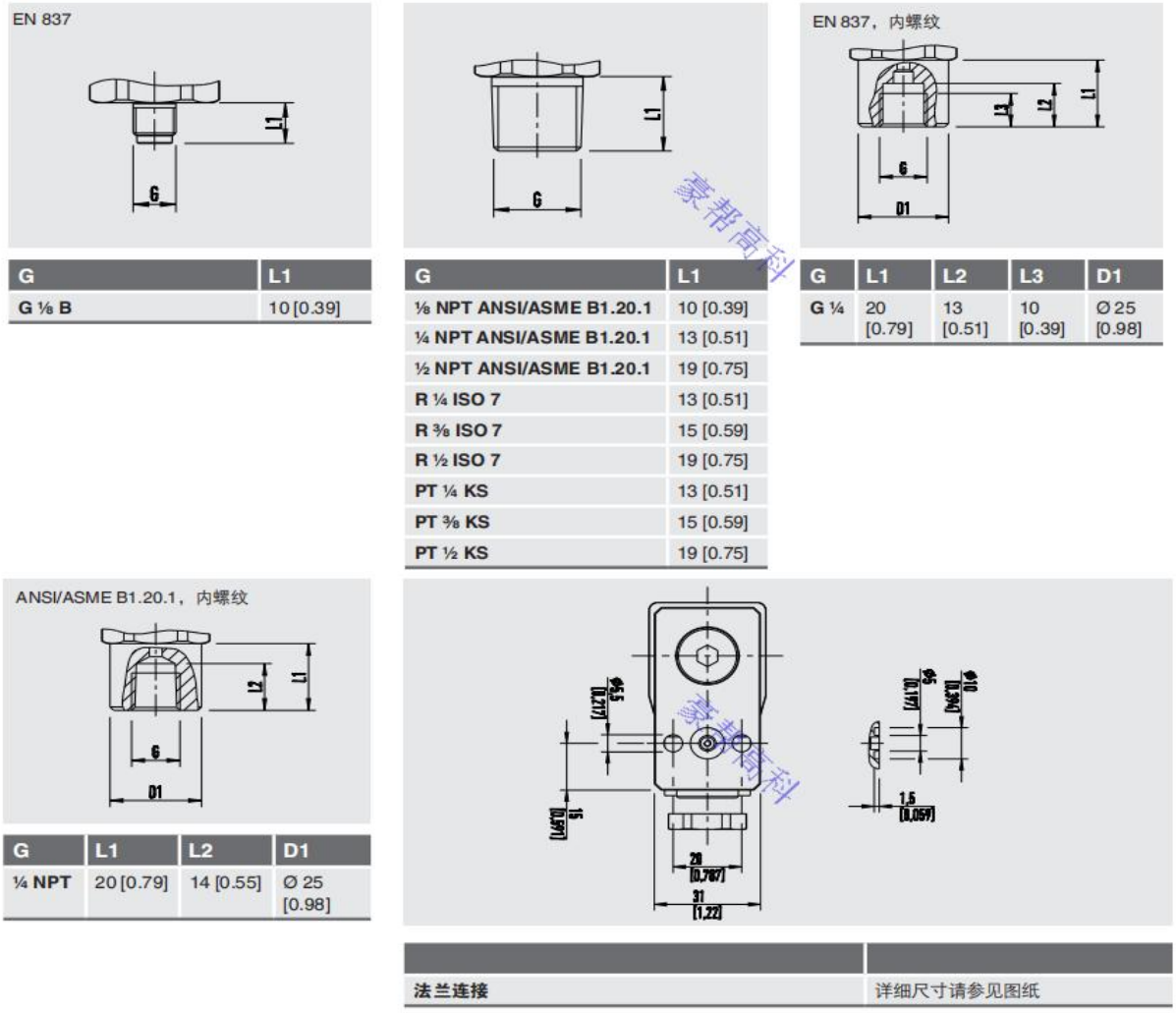

G	L1
G ⅛ B	10 [0.39]

G	L1
⅛ NPT ANSI/ASME B1.20.1	10 [0.39]
¼ NPT ANSI/ASME B1.20.1	13 [0.51]
½ NPT ANSI/ASME B1.20.1	19 [0.75]
R ¼ ISO 7	13 [0.51]
R ⅜ ISO 7	15 [0.59]
R ½ ISO 7	19 [0.75]
PT ¼ KS	13 [0.51]
PT ⅜ KS	15 [0.59]
PT ½ KS	19 [0.75]

G	L1	L2	L3	D1
G ¼	20 [0.79]	13 [0.51]	10 [0.39]	Ø 25 [0.98]

G	L1	L2	D1
¼ NPT	20 [0.79]	14 [0.55]	Ø 25 [0.98]

法兰连接	详细尺寸请参见图纸

Figure 3：Product Process Connection Diagram

7. Wiring Method And Output Options

Please refer to Figure 4 for the pin definition of the HBYB product series, and Table 3 for the pin function description.

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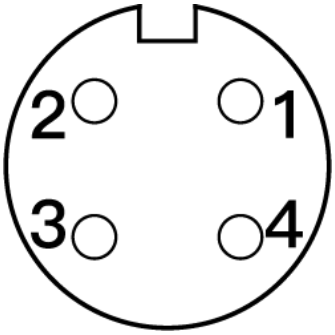

Figure 4：M12 aviation plug pin definition diagram

Table 3：Function description of M12 aviation plug pin

Output format	Pin number	Definition	Function	Wiring
4-20mA	1	I+	Current positive pole	Red
	2,4	NC	Empty	
	3	I-	Current negative pole	Blue
0.5-4.5VDC 0-5VDC	1	V+	Positive voltage terminal	Red
	2	OUT	Output end	Blue
	3	GND	Ground	Yellow
	4	NC	Empty	

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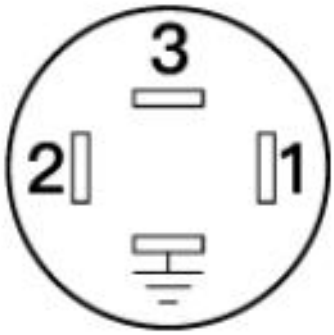

Figure 5：Hirschman Pin Definition Diagram

Table 4：Husman Pin Function Description

Output	Pin number	Definition	Function	Wiring
4-20mA	1	I+	Current positive pole	Red
	2	I-	Current negative pole	Blue
	3	NC	Empty	
0.5-4.5VDC 0-5VDC	1	V+	Positive voltage terminal	Red
	2	OUT	Output end	Blue
	3	GND	Ground	Yellow

Note: The actual color is subject to the actual product at the factory. For special requirements, please contact the manufacturer.

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8. Product Selection Information

The selection information of HBYB products is shown in Table 5.

Table 5：Product Selection Guide Table

Product Name： HBYB				
	Measurement Range： W: -0.1~60MPa，Fill in directly according to user requirements			
		Power Supply： V1: 5Vdc； V2：9~30Vdc		
			Output Signal： B1：4~20mA；B2：0.5~4.5V	
				Interface Thread:C1：G1/4；C2：G1/2；C3:DN4；C4:M5x0.5
				Additional Information： **Electrical Connection：** J1：Hirschmann connector；J2：M12 aviation plug **Precision：** P1: 0.5%；P2: 0.25%；P3：0.1% **Y：User request**
Selection Example：HBYB-2MPa V2 B1 C1 J2 P2				
***Please note:** 1) Some products do not include all the ranges mentioned above. For more product information, please contact Haobang sales personnel. 2) Pressure conversion：10kPa=100hPa=100mBar≈75mmHg≈100mmH2O≈1.45PSI				

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9. Customized Services

Haobang is guided by customer needs and provides flexible customized solutions to meet their different needs. Provide effective customization services for pressure transmitters, including but not limited to different ranges, packaging sizes, and application ranges. For more information, please contact info@haobang-smt.com .

10. Version Revision Record

Table 6: Version Revision Record

Version	Description	Data
1.01	Initial release	2024.12.20

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